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Dijkstra, AnneBert; Veenstra, René

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# DO RELIGIOUS SCHOOLS MATTER? BELIEFS AND LIFE-STYLES OF STUDENTS IN FAITH-BASED SECONDARY SCHOOLS

ANNEBERT DIJKSTRA & RENÉ VEENSTRA

*University of Groningen*

## *Abstract*

Despite the claim that plurality – be it religious, cultural, moral, or other – is important to the way in which schools achieve socialisation, there are few empirically validated data concerning the effects of a school system organised around plurality. This contribution explores the influence of faith-based schools on outcomes of schooling outside the traditional core curriculum, using data from the religiously segmented school system in The Netherlands. Based on an overview of earlier studies and an exploratory descriptive and multi-level analyses of data from 7600 pupils in secondary schools, the authors conclude that 1) the empirical basis for drawing valid conclusions about the effects of faith-based schools on outcomes outside the core curriculum is not very solid as yet, and 2) although some effects do seem to exist, the indicators used in this study provide little reason to expect substantial and systematic differences between schools.

## *Keywords:*

religiously affiliated schools, life-styles, student beliefs, attitudes and behaviour, outcomes of schooling in the socio-normative domain, secondary education, the Netherlands.

## 1. RELIGIOUSLY AFFILIATED SCHOOLS AND EDUCATIONAL OUTPUT

The goals of education are varied. Education should contribute to the development of character and provide training in social and cultural skills – not only for the sake of the individuals but also to prepare them for their responsibilities as citizens in a democratic society – as well as prepare them for the labour market and their future occupations (MOW, 1989). In light of the relevance of such goals for the individual, society, and the economy, it comes as no surprise that the extent to which education succeeds in achieving these goals is an important theme of public debate, policy-making, and educational sciences.

The relevance of reliable information about the functioning of educational systems has led to considerable efforts to collect data that may provide an insight into educational output and the extent to which the school system achieves the goals to be pursued. Such research has led to a substantial knowledge base concerning, for example, school effectiveness,

educational systems and their determinants, and has usually been focused on output in the cognitive domain. Studies of the distribution of educational opportunities or school effectiveness, for example, mainly investigated learner achievements in parts of the core curriculum, the educational level achieved, and the acquisition of formal qualifications.

In view of this background, it is remarkable that there is much less information about the output of the religiously segregated, 'pillarized' educational system in the Netherlands. From 1917 onwards, a powerful process of segregation along religious lines – called 'pillarization' – took place in the Netherlands. The effect has been a system of institutions and groups separated along denominational lines – 'pillars' – in almost all social spheres, including schools, hospitals, labour unions, the press, etc. Although this co-existence of substantial segments divided along denominational lines is a distinctive feature of the Dutch educational system, there has been little interest in the influence of these factors on educational output. A recent overview of research into pillarization in education has shown that any useful insights that have been obtained mainly concern school management and school effectiveness, parental motives for selecting a particular school, and the denominational diversity of schools (Dijkstra, Dronkers & Hofman, 1997). As we will see, little is known about other areas. There is little insight into the influence of the segmented Dutch school system on the output of this system. On the one hand, the limited information about the effects of pillarization can be attributed to the direction taken by academic and policy research in the past decades and the *terra incognita* resulting from this relative one-sidedness. On the other hand, it has been suggested that there is a link with the interests vested in the continued existence of the pillarized system and its legitimation, which means there was little or no incentive for collecting information about the effects of that system (Dijkstra, 1997).

Of course, this does not mean that no conclusions may be drawn, for example in an analytical sense, about the significance and effects of the freedom of education that has been created in the Netherlands (e.g. Woldring, 1999). What it does mean is that the empirical validation of such conclusions has hardly begun yet. This article reviews the main results of research currently available<sup>1</sup> into educational output as related to religiously affiliated schools and presents the results of an exploratory empirical study investigating possible effects of the segmented organisation of the Dutch educational system on outcomes of education in the socio-normative domain.

The goals pursued by means of education were summarised above as

character development, training in social and cultural skills, and preparation for the labour market. Given that educational quality is usually defined as the extent to which the school system or individual schools succeed in realising an optimum mix of these goals (MOW, 1989), such goals seem an obvious point of departure for a sketch of the output of pillarized education. However, it has been argued that education also pursues more implicit goals besides its explicitly formulated goals. Moreover, effects that are not sought but that arise as unintentional – and perhaps even undesirable – consequences of education should not be ignored either. For this reason, it is useful for a study of educational output not to take as its starting-point the intentional formal or informal *goals*, but rather the effects that can be attributed to education and its organisation. Such an approach, therefore, places the emphasis on the *functions* of education, i.e. the influence of education on the individual and on society.

A useful perspective for such an undertaking is the distinction between *qualification*, *differentiation*, and *integration* as primary functions of education (Peschar & Wesselingh, 1995). The first concerns the competencies and qualifications acquired by pupils that are specific and instrumental, as well as more general attitudes and qualities that have a socio-normative character. The differentiation effect of education is evident in selection processes that influence the qualifications pupils obtain, and in allocation processes that play a role in the allocation of labour market positions. The integration function, finally, concerns the contribution of education to transference of the society's value system. Integration within the group and within society is closely linked to the degree to which individuals identify themselves with more or less generally accepted moral values. It is an important prerequisite for social continuity and cohesion.

We will use these functions as a guideline for our review of the influence of the segmented organisation of the education system in the Netherlands on educational output. In the next three sections, our discussion of the effects of educational segmentation will therefore focus on the way in which the functions of instrumental and socio-normative qualification, differentiation, and integration are realised by the Dutch school system.

## 2. OUTCOMES OF SCHOOLING: AN OVERVIEW

### 2.1. *Segmentation and qualification*

Cognitive competencies – As we have briefly mentioned before, the effects of the pillarized school system on educational output in the cognitive

domain are reasonably well documented. The picture that emerges from the research shows that there is a relationship between pupil achievement and school denomination. Although the relationship is not systematic and the effects are not uniform, there are still clear indications of a relationship between school denomination and pupil achievement, even when pupil characteristics have been controlled for. Public schools tend to score lower than private schools in this domain. Within the private sector, Catholic schools in particular often distinguish themselves favourably (for an extensive discussion, see the reviews in Dijkstra, 1997 and Dijkstra & Veenstra, 2000).

**Social competencies** – Our observation that little is known about the success of schools concerning the transference of social qualifications certainly also applies to the role of pillarization. Although the limited insight into the relationship between pillarized education and the transference of social competencies reflects the state of affairs within educational research as a whole, this lack is still remarkable. After all, the domain of character formation and the acquisition of this type of qualifications is particularly close to the primary goals of a school system organised around denominational diversity.

Moreover, the conclusions that may be drawn from the limited number of studies available are hardly unequivocal. We will summarise the main results. On the one hand, research into the well-being of pupils does not point to any effects of denomination. A study among 25 schools for general secondary and pre-university education conducted in 1978 concludes that there are no major differences between schools of various denominations (Van Marwijk Kooy, 1984). An analysis of data obtained in 1994 from approximately 33,000 pupils in various grades of 800 primary schools does not show clear differences in their assessment of their well-being that are related to the school's denomination (Jungbluth, Peetsma & Roeleveld, 1996). On the other hand, a study conducted on 200 primary schools in 1987 and 1988 that included pupils' achievement motivation and self-image did show an effect of school denomination. Pupils of both private non-religious schools and Catholic school scored higher than those of public and Protestant schools (Hofman, 1994; Knuver, 1993).

In view of the scarcity of available studies and the limited scope of the existing studies, it is not surprising that hardly any conclusions may be drawn in this field that are both general in nature and empirically substantiated.

## 2.2. *Segmentation and differentiation*

**Allocation** – When the differentiation function of education is divided into processes of selection and allocation, not much needs to be said about the allocation function. Although much research has been conducted into the relationship between education and the labour market, there is almost no information about the effects of school denomination on the allocation of labour market positions. An exception is a study by Van Cuyk and Dronkers (1990), which shows a relationship between the sector of the first job and school denomination for pupils attending secondary education in the late 1960s and early 70s. Particularly pupils at Protestant schools distinguish themselves from the other pupils in the sample in that they are less inclined to choose a position in finance and administration, social and health services, or the service industry. Nevertheless, for the present we must conclude that there is virtually no empirical data concerning the effects of pillarization on job allocation processes.

**Selection** – In view of the prominent role of education in the distribution of opportunities in life, it should come as no surprise that the selection function of education is one of the central themes of educational research. Much research has been conducted in this area, not only into the lasting inequality of educational opportunities in relation to socio-economic or ethnic background, but also into the disappearance of the initial educational deprivation of girls in a relatively short space of time.

Although attention has been paid to the influence of pillarization in studies of the selection function of education (for a summary *see* Dijkstra, 2000), the insights gathered from this research have so far been modest. To sum up the conclusions, it appears that in some cases school denomination has an effect on selection processes related to social background and, in some cases, to gender. There are no indications, however, that differences in denomination systematically attenuate or amplify selection effects. Little empirical data is available about the significance of school denomination for selection related to ethnic background.

## 2.3. *Segmentation and integration*

**Transference of values** – It is generally assumed that education plays an important role in the integration of newcomers into society by transferring elements of culture to new generations. Education helps pupils to acquire knowledge that is deemed valuable. The transference from one generation to the next of such knowledge and the value system embed-

ded in it provides society and its members with a common framework that contributes to social cohesion. The extent to which education fulfils this integration function, therefore, involves the transference of values as well as themes such as cohesion, group identity, and emancipation.

The question of what effects religious segmentation in education has on the way the integration function is realised is particularly relevant to pillarized education. Goals relating to the transference of values involve socialisation fields that pertain to the central motive for a school system based on denominational diversity (e.g. Billiet, 1977; Dijkstra, Dronkers & Hofman, 1997). Even the shift from religious socialisation to a more general, non-religious formation of morals and values (Vreeburg, 1993) does not diminish the significance of religious-philosophical and normative plurality as the primary legitimation of the pillarized school system. If we assume that the realisation of normative goals or the incorporation of such goals into educational objectives is part of the core business of private, religious and faith-based schools, we would expect that it would be known to what extent such goals are actually achieved. However, the reality is different. Despite the claim that plurality – be it religious, cultural, moral, or any another kind – is important to the way in which schools achieve socialisation, empirically validated data concerning its effects are almost non-existent (an observation, incidentally, that applies with equal force to broader claims about the importance of education for the realisation of goals in non-cognitive domains; cf. Dijkstra, Van Oudenhoven & Peschar, 2000). Little research has been done in this field and there are also just a few studies that may provide indirect information about the effects of pillarized education on the transfer of values, attitudes, and opinions. The following review gives an impression of the studies that have been conducted in the Netherlands (*see also* Vreeburg, 1997).

One of the topics for which available data is scarce is the extent to which schools achieve religious goals. For example, information on the effects of religious schools on religious beliefs, orthodoxy, or church involvement is almost entirely lacking. An indication that such an influence may exist can be derived from an analysis of the biographical data of more than 2000 Dutch citizens between the ages of 18 and 70 interviewed in 1998 (De Graaf, Need & Ultee, 1999). After controlling for variables such as education, age, and church membership of the parents, the researchers reported that respondents who attended a Protestant school were less likely to leave their church. No such effect was found for Catholic schools. The results of a study into secularisation in the Netherlands, which reported a relationship between current interest in religious affairs and attendance at

religious instruction, could also point to an effect of religious socialisation on religious beliefs later in life (Faber, 1970). However, a study conducted in 1985 into the moral attitudes and religious beliefs of 700 university students did not show that attention paid to religious affairs in secondary education had any influence on church involvement and religious beliefs some years later (Stoffels & Dekker, 1987). A study conducted in Flanders supports the assumption that school denomination has effects on religious attitudes, beliefs, or behaviours (Heyveart, 1987). This study used data collected in the late 1970s from more than 1300 women age 23 to 49 to investigate to what extent differences in church involvement, religious beliefs, and participation within one's religious sector were related to the denomination of the school attended. No differences were found for the degree of church involvement and ideas about socio-economic and cultural topics. Relationships were found between school denomination and the extent to which respondents considered themselves to be religious, voting patterns, and membership in related religious organisations.

There is also little information about the effects of denomination and the wider area of value transference. A study based on data collected in the early 1990s among pupils of 60 schools for general secondary and pre-university education examined the influence of denomination on political attitudes (for example authoritarianism, ethnocentrism, and political involvement). Although initial differences were found between denominations, these mostly disappeared after the religious, social, and ethnic differences between the pupil populations were taken into account. What remained was that attending a religious school was found to have an effect on political interests (Wittebrood, 1995). Looking at Flanders again, it appears that school denomination should not be expected to have too great an influence on value transference. A recent study among 4700 pupils in their final year at more than 60 secondary schools looked at the relationship between school denomination and variables such as ethnocentrism and moral tolerance (Elchardus, Kavadias & Siongers, 1999). Although the differences in ethnocentrism can indeed be partially attributed to the influence of the school and a relationship with denomination was found, it was not the denominational schools that differed in this respect. Instead, it was the municipal and regional public schools that were differentiated from the Catholic and public state schools. Conversely, a study conducted among Dutch adolescents into the effects of the denomination of their primary school on political and social orientations later in life does suggest that denomination has effects (Braster, 1999). Especially Orthodox Protestant, Reformed, and anthroposophical schools distinguished themselves from



schools of other denominations on variables related to, for example, post-materialism, autonomy, hedonism, and family values. The similarities between the Catholic, Protestant, and public schools were greater than their differences in this respect.

Even when the scope is broadened and behaviour is included in the picture, our conclusion that little can be said with any degree of certainty about the effects of pillarization in education does not change. A study using data from a large database collected in 1994 among secondary school pupils looked at differences in the pupils' life-styles in relation to school denomination (Vreeburg & Dronkers, 1995). There appeared to be no substantial effects of denomination on, for example, aspects of the pupils' spending patterns – e.g. money spent on risk behaviour – and their use of leisure time. A relationship was found between denomination of the school (particularly for Protestant schools) and the significance attributed to religion in everyday life.

The conclusion that can be drawn from this review takes us back to the observation made at the beginning of this section. There appears to be little information on the extent to which the pillarized school system succeeds in fulfilling its primary task, and the data that is available hardly allows for general conclusions in this area. On the one hand, empirical research does seem to point to effects of school denomination on values, attitudes, and behaviour. On the other hand, the scope of the studies that have been conducted does not warrant more general statements about the nature, direction, or strength of such effects. Our conclusion must therefore be that although it cannot be ruled out that denomination is a factor that may be relevant to the way in which the integration function of education is fulfilled, there are also indications of the opposite. The question to what extent segmented education does have effects on the transference of values and to what extent a school system organised along denominational lines coincides with differential socialisation processes can thus not be answered at the present time. This conclusion applies to effects in the religious domain (for example, the transference of religious insights, beliefs, values, and behaviours), but also to the wider area of value transference and social and personal development.

**Emancipation and cohesion** – The question of the relationship between pillarization in education and emancipation and cohesion takes us to an area in which pillarization research in the Netherlands has already made contributions. Studies into pillarization in the Netherlands, for example, regularly mention the emancipation motive. From this perspective, pillarization

is regarded as the instrument used by Social Democrats, Catholics, and Orthodox Protestants to overcome their disadvantaged socio-economic and cultural status in society. One of the areas in which the relatively disadvantaged social position of Catholics and Orthodox Protestants was visible was education. Following this line of thought, pillarized education then becomes an emancipatory instrument to eliminate social and educational disadvantage (Matthijssen, 1958; Hendriks, 1971). However, it is not easy to judge to what extent the educational emancipation of Catholics and Orthodox Protestants may be regarded as an effect of pillarization. On the one hand, it seems likely that the availability of schools and universities catering to their particular denominations has stimulated Catholics and Orthodox Protestants to use those institutions and to pursue higher educational aspirations. On the other hand, the rise in the level of education in these groups cannot be attributed unequivocally to the effect of pillarization, because of the independent effect of the expansion of education in the twentieth century. Because of the intertwining of pillarization and expansion in education with the meritocratisation of society, the two effects cannot be easily separated. Although it seems plausible to assume that pillarized education has contributed to the elimination of the educational deprivation of Catholics and Orthodox Protestants, there is no empirical data available to quantify the relative impact of this effect (see also Ultee, Arts & Flap, 1996).

The same may be said about the relationship that is sometimes seen between pillarized education and social cohesion. The virtual lack of adequate empirical data that clearly demonstrate the contribution of pillarized education to social cohesion means that the question can, on the whole, only be answered in other (e.g. analytical) terms (cf. Lijphart, 1968).

### 3. EFFECTS OF RELIGIOUSLY AFFILIATED SCHOOLS: EXPLORATORY EMPIRICAL RESEARCH

#### 3.1. *Effects of segmented education: the current situation*

When we consider the currently available research, we must conclude first of all that there are few robust, empirically validated insights into the effects of pillarized education on the way in which the Dutch school system fulfils its functions. We have, at best, a limited understanding of both the long-standing primary function of religious socialisation and value transference and the effects of pillarization on selection and integration.

Nevertheless, if we attempt to sketch at least some contours of the effects

of the system of religiously segregated school sectors in the Netherlands, the following picture emerges. The limited data available suggest that school denomination has some effect on the transference of values and perhaps also on the acquisition of socio-normative qualifications. We have no data, however, that support more definitive conclusions about such an effect or allow the formulation of hypotheses about its nature and strength. Nor is it possible to answer in any detail the question of the effects of religious segmentation in education on selection and segregation processes. The available studies contain some indications that private education scores slightly better in its ability to compensate for socio-economically induced educational deprivation, but there is no empirical basis for drawing more general conclusions. Although not verified by systematic observation, there are some arguments that pillarized education may promote the educational emancipation of Catholics and Orthodox Protestants and possibly also alleviate socio-economic segregation. More data is available about the effects of pillarized education on the qualification function of education, particularly the acquisition of cognitive competencies. Although systematic differences are not present, the research does indicate a relationship between school denomination and school effectiveness. This effect of pillarization on the quality of education has been cited as an explanation for the enduring large market share of private education, despite the changes that have occurred with respect to religion and secularisation in Dutch society since the Pacification (the end of the school funding controversy) (Dronkers, 1992).

To sum up, we may conclude that there is little empirical data available about the effects of religious segmentation in education on the transference of values, integration, and cohesion. With regard to the transference of qualifications, the research shows that freedom of education coincides with differences in the output of public and private schools.

### *3.2. Empirical exploration and research questions*

In view of the above, it is almost self-evident that further research is required to come to more specific conclusions about how the segmented organisation of the Dutch school system affects its output. This is especially true for output outside the core curriculum, such as, for example, the acquisition of socio-normative qualifications and the transference of values. Although the previous sections have shed some light on these domains, the picture that emerges is diffuse, in the sense that there are indications for the absence of any substantial influence of school denomination, but

also results that point to differential effects. Against this background, we will therefore continue our investigation with an exploratory empirical study into the domains in which it may be expected that school denomination does affect socio-normative output. The analyses that we conducted are based on two questions:

- 1) Are there indications for the existence of differences in the socio-normative domain between pupils of schools of various denominations?*
- 2) Can such differences be attributed to the influence of the school?*

The next sections describe the design of the analyses and their outcomes.

The fact that our insight into the relevance of school denomination for output in the socio-normative domain is so limited reflects the long-standing lack of interest in the effects of pillarized education. This is also manifested in our lack of data in this area. As we have noted, this conclusion not only applies to the role of denomination, but also in a more general sense to the influence of education on the transference of competencies beyond the scope of the core curriculum.

A data source that is nevertheless available and that may offer some possibilities for an exploration of the effects of school denomination outside the core curriculum in the Netherlands is the National Pupil Survey (NSO).<sup>2</sup> This survey, which is somewhat similar to the long-standing "Monitoring the Future" project in the USA, was set up to monitor aspects of economic and social behaviour and physical and mental well-being of adolescents. The goal of the NSO is to measure the respondents' behaviour, health, and ideas and attitudes about money, life-style and the future in conjunction and at regular intervals. We have used the data of the most recent survey (conducted in 1996) available at the time of our secondary analyses.

#### 4. DATA, VARIABLES AND METHOD

Around 100 schools for secondary education with over 10,000 pupils participated in NSO 96. Although strictly speaking the NSO data cannot be regarded as a random sample, the researchers claim that the participating schools nevertheless constitute a representative cross-section of Dutch secondary education (De Zwart, 1997). Because the segmented organisation of the Dutch school system plays a central role in our study, for the purposes of the analyses presented here the data were weighted to make them representative of the national distribution in terms of school denomina-

tion at the time the data was collected (23% public schools, 25% Catholic schools, 31% Protestant schools, 21% private non-religious and other-denomination schools).<sup>3</sup> A happy coincidence enabled us to use additional data from a replication study among a group of Orthodox Protestant schools with around 1600 pupils in grades three to six, for whom some of the NSO variables are also available for the same period (Dijkstra, 2001). The secondary analyses reported here are based on the NSO data of pupils who attended the third, fourth, fifth, and sixth grades in 1996, to which the data for the Orthodox Protestant schools has been added.

Given the assumption that denominational diversity and its influence on socialisation processes is the primary legitimisation of the segmented organisation of the Dutch school system, it seems obvious to aim our exploration primarily at the transference of values. To what extent do the values and attitudes of pupils in the various segments of Dutch education differ? Areas of investigation may be the field of church and religion and the effects of religious socialisation, but also the development of values in the broader socio-economic and cultural domain.

Religious socialisation applies to the formation of attitudes and is directed at the development of a philosophy of life that includes the attitudes of the pupils about themselves, their fellow human beings, and the visible and transcendental realities. The development of successful moral values will usually not be limited to the formation of attitudes but also to their translation into behaviour and behavioural dispositions. Effects of segmented education may therefore manifest themselves both in the value system and in behavioural components. This involves not so much occasional behaviours but rather the extent to which the individual displays a pattern of behaviour that may be regarded as a manifestation of underlying value orientations. In light of this argument, we believe that an exploration of the influence of school denomination on educational output outside the core curriculum should take not only the transference of the value system into account, but also the pupils' behaviour – in which we include both the material aspect (actions) and the verbal aspect (attitudes and preferences) of behaviour. This implies that we will pay attention to differences in attitudes as well as behaviours of pupils attending schools of various denominations when answering the research questions formulated above.

The selection of variables for our analyses depends on the potential of the available data set. Although the variables selected have certain limitations when it comes to testing the potential relevance of school denom-

ination to output in the socio-normative domain, it should be noted that the variables from the NSO study do allow us to provide a useful insight into the relevance of differences in denomination, and can be regarded as useful indicators of possible influences of school denomination on output outside the core curriculum. In the next paragraphs, we will provide a brief explanation of the variables used as indicators for the dimensions we have identified above.

To explore the influence of denomination on behaviour, we selected participation in popular culture and going out as important components of youth culture. Drug use has been added as an indicator that may give an impression of differences in the frequency of risk behaviour. The variable *participation in popular culture* is the sum score (based on the factor loadings) of the number of times pupils visited pop concerts and house parties in one year. The *going out* indicator comprises the summed (and weighted with the factor loadings) scores of the number of hours and days per week that pupils go out, and the number of times per month they visit a disco, cinema, or bar. The *drug use* variable is constructed from the sum score (weighted with the factor loadings) of items relating to the frequency of use of hallucinogenic, soft, and hard drugs in the past twelve months (answer categories: "never", "sometimes", and "regularly").<sup>4</sup>

To indicate the possible relevance of school denomination to pupil attitudes, we have selected significance of religion as an indicator of religious socialisation effects. To get an impression of the relevance of differences in denomination to the wider domain of values and opinions, we used the sex-role orientation of pupils and their opinions about several current social topics. The *significance of religion* variable measures the importance pupils assign to religion in their lives.<sup>5</sup> The *sex-role orientation* indicator is the average sum score of the answers to items expressing opinions about the division of labour with respect to child-rearing and child care, paid employment, cooking dinner, and household chores.<sup>6</sup> The pupils' *social orientations* were measured by means of their answers (agree/disagree) to statements about eleven current social topics: "If you want to work, you can always find a job", "Nearly everybody runs the risk of unemployment nowadays", "Too many people abuse social security", "Pretty good care is taken of all people in the Netherlands", "The minimum wage should not be lowered", "Generally speaking, social benefits can go down", "I believe you have the right to defend yourself by force", "Everything changes too rapidly nowadays", "There are too many immigrants in our

country", "I would like to work for a year as a volunteer", and "Everybody should be of service to other people in this country for at least six months".

The analysis was carried out in two steps. To answer the first research question, the differences in attitudes and behaviours of pupils in the various segments of Dutch education were explored. To demonstrate these differences, we will show both the differences in the average scores and the distributions of the pupils' opinions. The second step consists of various multi-level analyses to determine to what extent the differences found may be attributed to school effects.

##### 5. DESCRIPTIVE ANALYSIS: DIFFERENCES BETWEEN DENOMINATIONS?

Table 1 summarises the average scores on some indicators for pupil behaviours and attitudes at schools of various denominations. The right-most columns show that the differences between the average scores per group are significant in all cases. The note below the table summarises the scores of paired significance tests (Bonferroni). Only the significant differences have been included.

The F-tests show that the differences between the group averages for all variables are statistically significant. The picture that emerges from this table is hardly surprising in most cases. It appears, for example, that pupils at Orthodox Protestant schools go out less and participate less in popular culture. The scores for the significance of religion in the lives of the pupils are also as would be expected, with the lowest scores for the public sector and increasing from the Catholic and Protestant schools to the Orthodox-Protestant denomination. Somewhat remarkable are the higher average scores for pupils at Protestant and Orthodox-Protestant schools on the sex-role orientation variable, which indicates a less frequent occurrence of traditional ideas about sex roles. Inspection of the underlying items suggests that the 'child-rearing' variable could offer an explanation. Whereas the differences are small for the other components, the two denominations are distinguished on this point by placing a slightly greater emphasis on child-rearing as a joint responsibility of both partners.

An examination of the paired comparisons shows that most of the differences between the groups must be attributed to the positions of pupils at Orthodox Protestant schools. The Orthodox-Protestant denomination includes around 1 per cent of the total number of pupils in primary and secondary education. In many respects, it can be regarded as an atypical

Table 1. Differences in student attitudes and behavior between public, private and private religious schools (ANOVA: sector means, total mean (standard deviation) and F-test)

Sector of school:	Public	Private: Catholic	Protestant	Orthodox Protestant	Non- religious	Total	Significant differences:
Participation popular culture	0.58	0.68	0.55	0.32	0.84	0.58 (1.37)	F= 17.8 (df=5) p=.000 N=7587
Going out	5.42	5.98	6.21	3.83	6.21	5.49 (4.92)	F= 52.2 (df=5) p=.000 N=7587
Use of drugs	2.61	2.67	2.50	2.45	2.64	2.55 (1.05)	F= 15.0 (df=5) p=.000 N=7587
Sex role orientation	1.57	1.56	1.61	2.03	1.62	1.66 (0.66)	F=136.6 (df=5) p=.000 N=7587
Significance of religion	1.63	2.03	2.12	3.40	1.92	2.21 (1.07)	F=661.4 (df=5) p=.000 N=7114

*Significant sector differences (Bonferroni test):*

- Participation popular culture (p<.01): Public-NonRel, Public-OrthProt, Cath-OrthProt, Prot-OrthProt, Prot-NonRel, OrthProt-NonRel
- Going out (p<.01): Public-Cath, Public-Prot, Public-OrthProt, Cath-OrthProt, Prot-OrthProt, OrthProt-NonRel
- Use of drugs (p<.01): Cath-Prot, Cath-OrthProt / (p<.05): Public-Prot, Public-OrthProt, OrthProt-NonRel
- Sex role orientation (p<.01): Public-OrthProt, Cath-OrthProt, Prot-OrthProt, OrthProt-NonRel
- Significance of religion (p<.01): Public-Cath, Public-Prot, Public-OrthProt, Public-NonRel, Cath-OrthProt, Prot-OrthProt, Prot-NonRel, OrthProt-NonRel (p<.05): Cath-Prot



sector of the Dutch school system. Although the differences between this group of schools and the other sectors underline the potential importance of denomination effects, we will limit our discussion to the denominations that are usually regarded as the mainstream of Dutch education. The differences that remain once the Orthodox-Protestant denomination is removed are mainly found in the variables for going out, drug use, and significance of religion. Pupils at Catholic and Protestant school go out slightly more often than pupils at public schools. Protestant pupils use drugs less often than do pupils at public and Catholic schools. However, the differences for these two variables are minimal and remain well below one quarter of the standard deviation in all cases. On the other hand, the differences on the significance of religion variable are more pronounced (from one third to one half the standard deviation).

When we look at the results of our empirical exploration at this point, two conclusions may be drawn. On the one hand, it appears that there are indeed differences in the attitudes and behaviours of pupils from the various segments of Dutch education. Indications that point to differences between denominations have been found for opinions about social topics and religion and for behavioural aspects such as going out and engaging in risk behaviour. On the other hand, it is obvious that the sectors investigated are very similar on the whole and that the differences found are usually small and hardly systematic. The answer to the first research question can therefore be that although there is some evidence for differences, the currently available indicators suggest that it might be unlikely there will be substantial and systematic differences between the segments of the Dutch educational system.

Although the descriptive data presented in this section are useful to get an impression of the extent to which denominations in Dutch education are different, the picture that emerges from them is still vague. It seems likely that the attitudes and behaviours, for example, may differ because of differences in gender, age, cognitive competencies, or other factors. Differences that may exist between the sectors on these points will lead to an inflation or deflation of the actual differences between denominations. In the next section, we will therefore answer the question to what extent differences between denominations may be attributed to the influence of schools.

## 6. MULTI-LEVEL ANALYSIS: EFFECTS OF SCHOOLS?

### 6.1. *Models and variables*

The second step in the analysis consists of estimations of three multi-level models<sup>7</sup> for several of the indicators of attitudes and behaviours presented above. Assuming that pupils at the same school have more in common with each other than they have with pupils at different schools, it makes sense to take the various levels in the data (pupils and schools) into account in the analysis. Multi-level analysis takes account of this hierarchical nature of the data, so by using multi-level models more accurate results may be obtained, particularly concerning the distinctions between effects of pupils and schools (for a more detailed explanation, see Veenstra, 1999).

Using these models, we will answer the question about the importance of school denomination for some of the previously discussed indicators of attitudes and behaviours.

Apart from adequately distinguishing the effects of schools and pupils, we have already mentioned that the second step in the analysis is also important to control for other factors that may offer an explanation for the denomination effect. In view of the exploratory nature of our analyses, we have opted for a limited number of variables that enable us to control for the most obvious alternative explanations. The indicators for behaviours and attitudes included in the analyses vary with age and gender, so that we have controlled for these effects. On some points, there may also be variation with the pupils' cognitive competencies. Because the competence level was not measured directly, we used four dummy (0/1) variables derived from the level of the school (track) attended by the pupil (vocational, lower and intermediate secondary, and pre-university). To designate the socio-economic status of the family, we used the highest occupational class and level of education of the father or the mother.<sup>8</sup>

Moreover, it should also be taken into account that any differences in pupil attitudes and behaviours may not be related to school denomination but to differences in the religious or moral climate between families. As a proxy for such differences, we have used the religious denomination of the family, which was added to the analyses as a dummy variable for the main religious traditions in the Netherlands. To get an impression of the current strength of the pupil's religious beliefs, we also controlled for the pupils' significance of religion.

After these variables at pupil level had been included, the last step consisted of adding dummy variables for school denomination, measuring the school effect.

## 6.2. *Results*

The results of the multi-level analyses are summarised in Tables 2 to 4. In view of the similar nature of the results for the various indicators, we will discuss them in conjunction. The most important result must be that a significant effect of school denomination was found only for drug use (Table 2), sex-role orientation (Table 3), and significance of religion (Table 4). No significant effect was found for participation in popular culture and going out.<sup>9</sup>

For the variables sex-role orientation, significance of religion, and drug use, adding school denomination to create the school-pupil model leads to a significant improvement of the model. Apart from the public and Catholic schools effect (both: more frequent), drug use shows minor effects. The influence of school denomination on the significance attached to religion by the pupils is slightly stronger, particularly for Orthodox-Protestant, Catholic, and public schools. However, its contribution is positive only for the Protestant and Orthodox-Protestant schools. In all cases, the religious background of the pupils makes a positive contribution to the significance of religion variable. Regarding sex-role orientation (Table 3) Orthodox-Protestant schools show a stronger effect. The variation in the sex-role orientation variable, however, is also mainly explained by individual differences. Girls, for example, are more modern in their attitudes on this point than boys, and the same is true for pupils from religious families. If pupils have religious beliefs themselves, however, their ideas are more traditional.

Nevertheless, we should note that even in these tables the effect of school denomination is modest. At the bottom of Tables 2, 3 and 4, it is shown that by far the greater part of the variance explained by the variables included in the model is accounted for by the variables at the individual level. For example, in the empty model for significance of religion (Table 4) the variance between schools is 0.145 and the variance between pupils (or within schools) is 0.758. Adding the individual characteristics, the variance between schools decreases to 0.038 and within schools to 0.514. The explained variance at the individual level is:  $1 - (0.514 + 0.038) / (0.758 + 0.145) = 0.389$ . The pupil model explains 38.9 percent of the differences in significance of religion. When school denomination is added, the explained variance increases to 39.7 percent. The school model adds 0.8 percent explained variance. Regarding drug use (Table 2) and sex-role orientation (Table 3), the school model adds 0.6 and 1.0 percent explained variance.

Table 2. *Multilevel analysis: effects of pupil characteristics and the schools' religious denomination on use of drugs*

variable	B	(SE)	B	(SE)	B	(SE)
	<i>Empty model</i>		<i>Pupil model</i>		<i>Pupil-School model</i>	
Constant	0.017	(0.024)	0.084	(0.069)	0.038	(0.068)
<i>Pupil level</i>						
– Gender (female)			-0.027	(0.021)	-0.026	(0.021)
– Age			0.023	(0.012)	0.023	(0.012)
– Level of education (reference group: others)						
lower vocational track (vbo)			0.123	(0.073)	0.078	(0.070)
lower general track (mavo)			0.137	(0.069)	0.101	(0.068)
intermediate general track (havo)			0.093	(0.068)	0.062	(0.066)
pre-university track (vwo)			0.109	(0.067)	0.076	(0.065)
– educational level parents			0.013	(0.012)	0.013	(0.012)
– occupational level parents			0.000	(0.012)	0.000	(0.012)
– Religion in family (reference group: not religious)						
Catholic			0.186	(0.032)}	0.169	(0.032)}
Protestant ('Nederlands Hervormd')			0.196	(0.050)}	0.203	(0.050)}
Reformed-Protestant ('Gereformeerd')			0.273	(0.055)}	0.281	(0.055)}
Orthodox-Protestant ('Gereformeerd vrijgemaakt')			0.324	(0.090)**	0.339	(0.103)**
Islam or Hindu			0.404	(0.067)}	0.399	(0.067)}
other religion			0.335	(0.335)}	0.338	(0.059)}
– Significance religion			-0.143	(0.014)**	-0.142	(0.014)**
– Going out			0.139	(0.011)**	0.139	(0.011)**
<i>School level</i>						
– Religious denomination of the school (reference group: unknown)						
public					0.158	(0.065)}
private: Catholic					0.202	(0.052)}
private: Protestant					0.052	(0.066)*
private: Orthodox Protestant ('Gereformeerd vrijgemaakt')					0.021	(0.164)}
private: non-religious					0.060	(0.060)}
<i>Variance components</i>						
Pupil level	0.972	(0.015)	0.939	(0.014)	0.939	(0.014)
School level	0.033	(0.007)	0.023	(0.006)	0.017	(0.004)
<i>Model fit</i>						
Deviance	24619.4		24299.9		24283.7	
Decrease in deviance compared to pupil model					16.2 (df=5) p<.025	

significant differences (two-sided): \*\* p&lt;.01 \*p&lt;.05

Table 3. *Multilevel analysis: effects of pupil characteristics and the schools' religious denomination on sex role orientation*

variable	B	(SE)	B	(SE)	B	(SE)
	<i>Empty model</i>		<i>Pupil model</i>		<i>Pupil-School model</i>	
Constant	-0.123	(0.026)	-0.389	(0.067)	-0.438	(0.065)
<i>Pupil level</i>						
- Gender (female)			0.322	(0.020)**	0.323	(0.020)**
- Age			-0.010	(0.012)	-0.010	(0.012)
- <i>Level of education (reference group: others)</i>						
lower vocational track (vbo)			-0.051	(0.071)	-0.047	(0.068)
lower general track (mavo)			-0.016	(0.067)	-0.020	(0.066)
intermediate general track (havo)			0.003	(0.066)	0.014	(0.063)
pre-university track (vwo)			0.112	(0.066)	0.122	(0.063)
- educational level parents			0.020	(0.012)	0.018	(0.012)
- occupational level parents			0.005	(0.011)	0.005	(0.011)
- <i>Religion in family (reference group: not religious)</i>						
Catholic			0.283	(0.031)}	0.290	(0.031)}
Protestant ('Nederlands Hervormd')			0.345	(0.048)}	0.341	(0.048)}
Reformed-Protestant ('Gereformeerd')			0.392	(0.053)}	0.394	(0.053)}
Orthodox-Protestant ('Gereformeerd vrijgemaakt')			0.479	(0.087)} **	0.342	(0.099)} **
Islam or Hindu			0.352	(0.064)}	0.365	(0.064)}
other religion			0.300	(0.056)}	0.275	(0.056)}
- Significance of religion			-0.038	(0.014)* *	-0.039	(0.014)* *
<i>School level</i>						
- <i>Religious denomination of the school (reference group: unknown)</i>						
public					0.127	(0.064)}
private: Catholic					-0.024	(0.051)}
private: Protestant					0.088	(0.065)} **
private: Orthodox Protestant ('Gereformeerd vrijgemaakt')					0.596	(0.160)}
private: non-religious					0.146	(0.059)}
<i>Variance components</i>						
Pupil level	0.901	(0.014)	0.862	(0.013)	0.862	(0.013)
School level	0.045	(0.009)	0.025	(0.006)	0.016	(0.004)
<i>Model fit</i>						
Deviance	23980.1		23560.4		23539.2	
Decrease in deviance compared to pupil model					21.1 (df=5) p<.001	

significant differences (two-sided): \*\* p&lt;.01

Table 4. *Multilevel analysis: effects of pupil characteristics and the schools' religious denomination on significance of religion*

variable	B	(SE)	B	(SE)	B	(SE)
	<i>Empty model</i>		<i>Pupil model</i>		<i>Pupil-School model</i>	
Constant	2.054	(0.043)	1.595	(0.058)	1.619	(0.191)
<i>Pupil level</i>						
– Gender (female)			0.136	(0.016)**	0.136	(0.016)**
– Age			0.006	(0.009)	0.006	(0.009)
– <i>Level of education (reference group: others)</i>						
lower vocational track (vbo)			-0.180	(0.063)}	-0.158	(0.062)}
lower general track (mavo)			-0.220	(0.060)}	-0.203	(0.059)}
intermediate general track (havo)			-0.185	(0.059)**	-0.172	(0.058)**
pre-university track (vwo)			-0.103	(0.059)}	-0.089	(0.058)}
– educational level parents			0.005	(0.009)	0.004	(0.009)
– occupational level parents			-0.009	(0.009)	-0.009	(0.009)
– <i>Religion in family (reference group: not religious)</i>						
Catholic			0.682	(0.023)}	0.686	(0.023)}
Protestant ('Nederlands Hervormd')			1.121	(0.036)}	1.119	(0.036)}
Reformed-Protestant ('Gereformeerd')			1.128	(0.040)}	1.128	(0.040)}
Orthodox-Protestant ('Gereformeerd vrijgemaakt')			1.381	(0.071)**	1.325	(0.075)**
Islam or Hindu			2.116	(0.045)}	2.119	(0.045)}
other religion			1.469	(0.040)}	1.458	(0.041)}
<i>School level</i>						
– <i>Religious denomination of the school (reference group: unknown)</i>						
public					-0.157	(0.074)}
private: Catholic					-0.128	(0.059)}
private: Protestant					0.036	(0.074)*
private: Orthodox Protestant ('Gereformeerd vrijgemaakt')					0.442	(0.191)}
private: non-religious					-0.048	(0.068)}
<i>Variance components</i>						
Pupil level	0.758	(0.012)	0.514	(0.008)	0.514	(0.008)
School level	0.145	(0.024)	0.038	(0.007)	0.031	(0.006)
<i>Model fit</i>						
Deviance	22568.5		19116.3		19101.9	
Decrease in deviance compared to pupil model					14.1 (df=5) p<.025	

significant differences (two-sided): \*\* p<.01 \*p<.05

## 7. CONCLUSION

Summarising the main results of our study on the importance of a segmented school system for educational output in the socio-normative domain, the most obvious conclusion must be that at present there seems to be little evidence to support strong differential effects.

Our review of earlier studies available in this area – in so far as it could be used to support any assertions – had already led to the conclusion that although there is some support for differential effects, strong relationships have not been found. This conclusion is also valid for the exploratory empirical analyses of recent Dutch data presented in the second part of this paper. The answer to the first research question – are there any indications for differences in the socio-normative domain between pupils attending schools of various denominations – is that such differences do exist but that the indicators used here provide little reason for expecting substantial and systematic differences. The answer to the second research question into the role of school denomination in this domain also points in this direction. The analyses presented in the previous section show that the sector of the school cannot be ignored and does contribute to the explanation of differences between pupil attitudes and behaviours. However, the analyses also show that the role played by the school appears to be limited.

Secondly, our study shows that research into the effects of segmented education on the socio-normative domain has hardly begun yet. Our exploration of previously conducted studies and the analysis of recent Dutch data presented here contain few indications for relationships that could be characterised as “very strong” or even “strong”, but they also show that there is little insight into possible effects and that data from which such insights could be derived is very scarce. This means, perhaps, that our main conclusion must be that the foundation for drawing valid conclusions about the relevance of school denomination is not very solid as yet, and that more data collection and research is required before adequate evaluations can be made.

At this point, we should like to return to our previous remark that little is known – even in general terms – about educational output outside the core curriculum. Initially, the interest in educational output and school effectiveness was mainly focused on results in the cognitive domain. Only recently has this begun to change as more attention has been paid to other goals of education as well. An important role in this matter is played by the development of indicators for international comparisons of school systems. Although initially focusing on knowledge domains such as language and mathematics (Elley, 1994; Mullis, 1977), nowadays this research is being expanded to include areas such as citizenship and co-operation skills. For example, research into cross-curricular competencies – a concept that refers to the complex of knowledge, attitudes, and skills required to lead a meaningful life – may be expected to render a valuable contribution to our understanding of educational output outside the core curriculum, but results in this area are still scarce (OECD, 1997). The exploration of the

potential influence of a segmented school system in the domain presented here shows that it will be useful to include effects of a segmented educational system and school denomination in this research.

## NOTES

1. For an extensive discussion, see Dijkstra (2000), which contains parts of the information presented in this paper.

2. The National Pupil Survey (*Nationaal Scholierenonderzoek*) is conducted every two years by NIBUD and SCP (De Zwart, 1997).

3. Because the schools for which the denomination was not known have been included in the "private non-religious / other" category, the results found for this category should be interpreted with some caution.

4. Minimum and maximum scores for the variables *participation in popular culture*, *going out*, and *drug use* are 0-18.7, 0-28.5, and 0-7.5.

5. Four answer categories, ranging from "none" (1) to "a lot" (4).

6. The minimum sum score (1) indicates a traditional orientation, the maximum sum score (3) an emancipatory orientation.

7. The first model in the analyses is an "empty" model used to differentiate the variance explained by differences between pupils from the variance explained by differences between schools. The empty model for the explanation of the dependent variable  $Y$  contains three terms: the intercept ( $\beta$ ) and the residues at school ( $U$ ) and pupil ( $R$ ) level:  $Y_{ij} = B_{00} + U_{0j} + R_{ij}$ . In this model,  $i$  is the index for pupils and  $j$  the index for schools. Therefore, index  $0j$  only varies at school level, while a variable with index  $ij$  varies at both school and pupil level. Components  $U_{0j}$  and  $R_{ij}$  are random variables that follow the normal distribution with  $\sigma_u^2$  and  $\sigma_r^2$  as residues. The next step is adding the independent and control variables ( $X$ ) at individual level. The second ("pupil") model is then as follows:  $Y_{ij} = B_{00} + B_{01} X_{ij} + U_{0j} + R_{ij}$ . Besides these components, this model contains regression coefficient  $B_{01}$ . This may be interpreted in the usual manner: an increase of one unit  $X$  will lead to an increase of  $B_{01}$  units of  $Y$ . The regression coefficient and the intercept constitute the systematic part of the equation, while the variance components may be regarded as the random part.

The distribution of the explained variance between pupil and school is an important element of the analyses to answer our second research question. This part shows to what extent the differences found between pupils in various denominational sectors can also be attributed to variance between schools, since the variance explained at the pupil level does not involve systematic differences between schools but differences between pupils *within* a school, and can thus not be regarded as an effect of (the denomination of) the school.

Another indication for the importance of the denomination of the school can be derived from the "gain" of extending the model to include school denomination. Does such an extension lead to a significant improvement of the model? After having added pupil characteristics in the second model, we therefore added the school characteristic "denomination" in the third ("school-pupil") model. The size of the model coefficients for denomination and the shift in the explained variance once the school variable is added will provide an indication of the strength of the denomination effect.

8. Both variables on a scale from 1 to 8.

9. Both tables not shown here. Extension of the pupil model with school denomination in the pupil-school model did not lead to a significant improvement. This means that adding information about school denomination does not lead to a better explanation of the differences between pupils in terms of participation in popular culture and going out.



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Address for correspondence:

AnneBert Dijkstra & René Veenstra

Department of Sociology

University of Groningen

Grote Rozenstraat 31

9712 TG Groningen

The Netherlands

Email: a.b.dykstra@ppsw.rug.nl

d.r.veenstra@ppsw.rug.nl